

Inventor: ERICKSON et al.  
 Docket No.: 00270.0079USWO  
 Title: HARVEST-INDUCIBLE GENES FROM ALFALFA (MEDICAGO SATIVA) AND  
 METHODS OF USE THEREOF  
 Attorney Name: Gregory A. Sebald  
 Phone No.: 612.336.4728  
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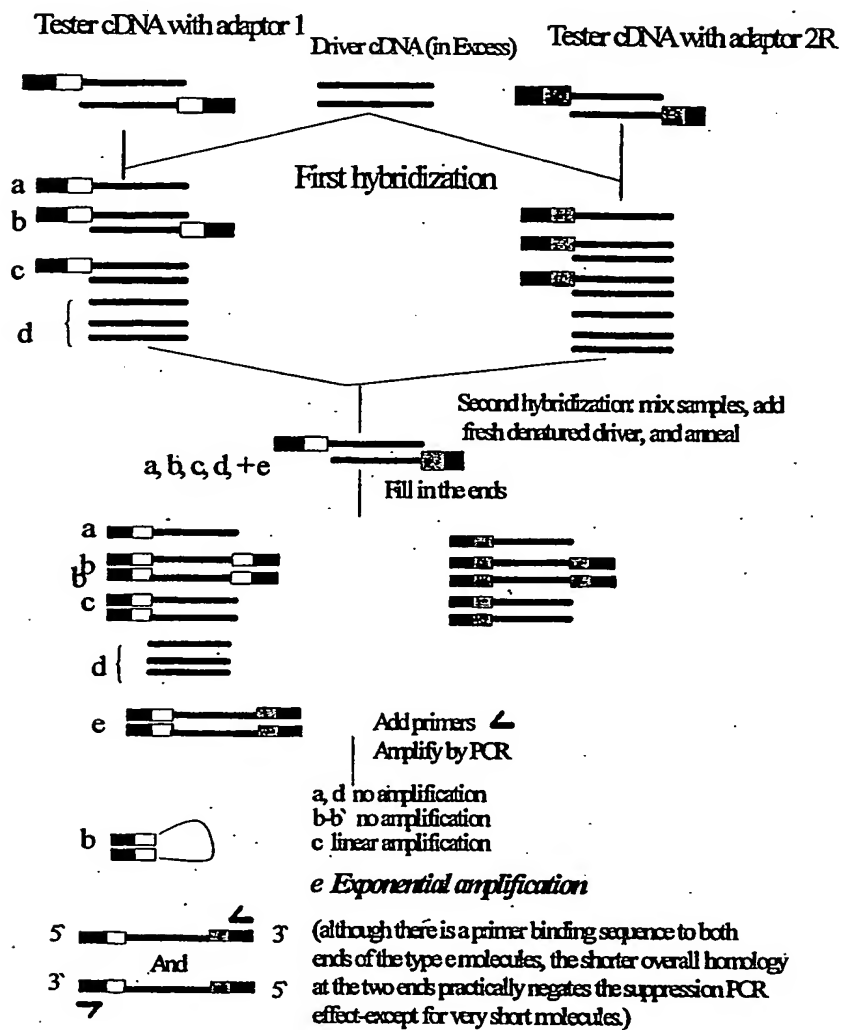


FIG. 1

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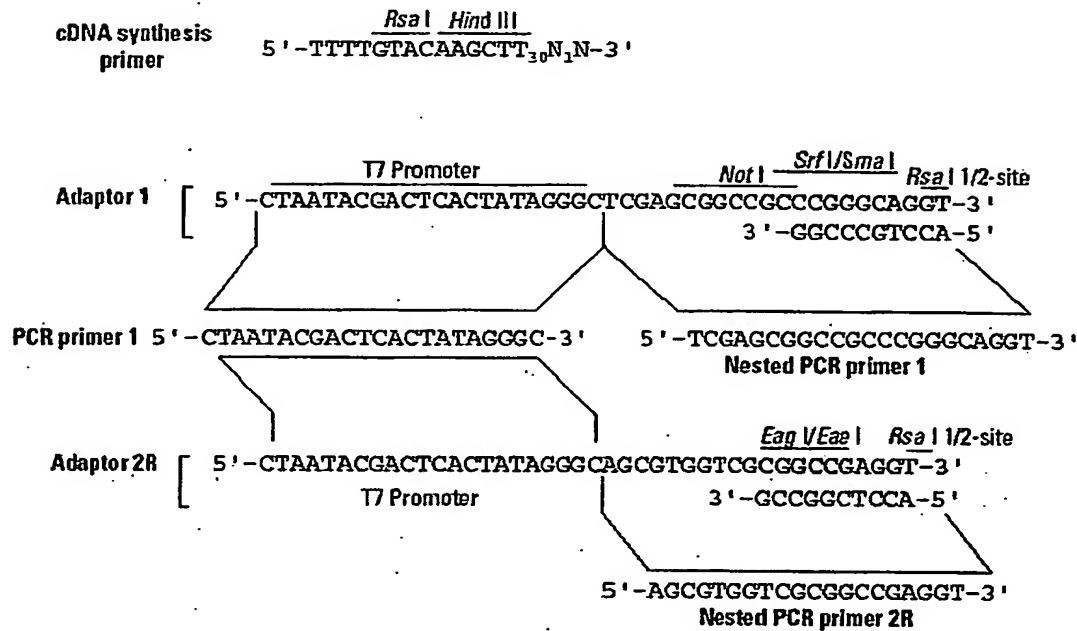


FIG. 2

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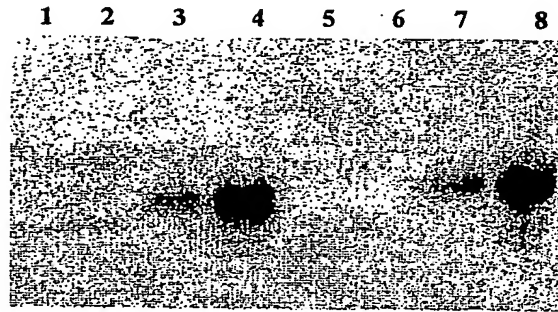


FIG.3

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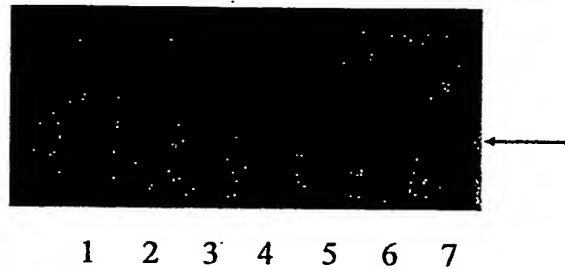


FIG. 4

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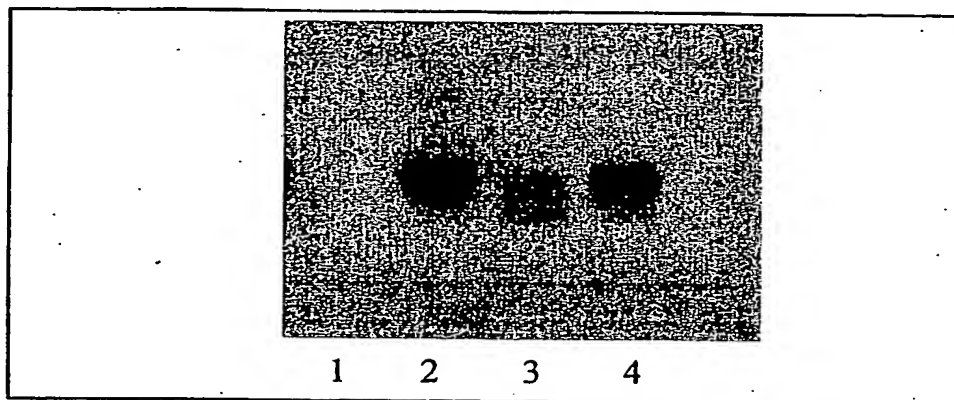


FIG. 5

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1 2 3 4 5 6 7

FIG. 6

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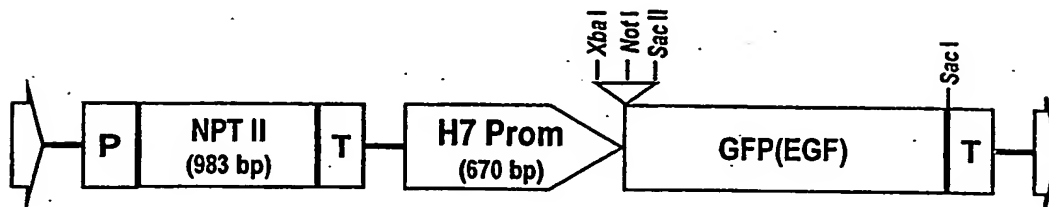


FIG. 7

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acgcgtggtc gacggcccg gctggtacta aagtattact attaccaaat ttttaggacc 60
ccacccatga caccattgct atatttcaat ttgggaaaat attgctataa agttactgta 120
gtaactttta gaagaagggt ttttttttaa ggatttttaga ggaagggttag caacacacat 180
gcacttttaa tatacathtt ttcttataaa gtttttgtat cgagttgaga aatcatatat 240
atactcataa atcatgtgga ttcatataa tttaatagaa cacataaatt ttaaccgaga 300
aataaagtgt tgcaaatata tgttaaaaga gtacgttggt aacattatht taatttcttt 360
tattcaatcc acactttgag tcatggactg ctatactaht tcattttgtt tttcgcaccc 420
taattagaga ttgtccagat acaaagagga gtaacctaat aaataaatat taaaatattc 480
accaacggcc tcagtaagct acttgagcta aacaatgaga tttccaaata aggtagggtcc 540

ttcccaagtt ctataaatag catccctcac catgtcataa accgcatcac aagtatatata 600
CTGTATTCAT ACTATACACT TATCCTTTCA TTTACTTCTT GCATATTGAT CCTTGTTATC 660
TTGATATATA TATCATGGGTGTTTTTACTTTCAATGATGAACATGTCTCAACCGTGGCTC 720
      M G V F T F N D E H V S T V A
CAGCTAAACTCTACAAGGCTCTTGCAAAAGATGCTGATGAAATCGTCCCAAAGGTGATTT 780
P A K L Y K A L A K D A D E I V P K V I
CTGCTGCCCCAAGTGTTGAAATTGTTGAAGGAAATGGAGGACCCGGAACATTAAAGAAGC 840
S A A Q S V E I V E G N G G P G T I K K
TATCCATTGTTGAAGATGGCAAAACCAACTTTGTGCTACACAAATTAGATTCAGTGGATG 900
L S I V E D G K T N F V L H K L D S V D
AGGCAAACTTTGGATATAACTACAGCTTAGTGGGAGGAACAGGGTTGGATGAAAGTTTAG 960
E A N F G Y N Y S L V G G T G L D E S L
AGAAAGTTGAATTTGAGACAAAAATTGTTGCTGGCTCTGATGGTGGATCCATTGTTAAGA 1020
E K V E F E T K I V A G S D G G S I V K
TTTCAGTGAAATACCATACCAAAGGTGATGCAACTCTATCTGAAGCAGTACGTGAGGAGA 1080
I S V K Y H T K G D A T L S E A V R E E
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T K A K G T G L I K A I E G Y V L A N P
ATTACTAGCC AATTAAACCC TATTGAGGAC TTTAATTGG GTTGTGTTGT TTCATGCGAA 1200
N Y *
TAATAATTAA AGTTTATGAT GCGGTTGAAG TGTGTTGAGT ATACATCAAG GTCTTTGGCT 1260
CGTACATGTG TGTTGGCTTT GTTGGATGTT GTGAGGTTTG AGTGCTATTT TGGGTGTTTA 1320
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ATAATGCAAA AGAATTTTAT CGCGAAAAAA AAAAAAAAAA AAAA 1424

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FIG. 8



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cagaacccccg anaggctggt gctagtatgg cttcgttgta atacgactca ctatagggcg 60
cgcggtggtcg acggccccggg ctggtatcag cgagtaacga ttcacatcat ctcacactag 120
ggatgaatga tttattattg agtttatgaa tttgaactat tacttctaata ttctaaatga 180
agacatttaa gtaaaagatt aaaatattct agtttcaaat attttggatt ttagaattta 240
aatttaatct ttaaaaaaaaa attaaattta aagaagataa aaagggagaa aataaataga 300
tgaatataat ttgtaaacat gaagacctta tctccagtaa aaaaacatat ggaccttattc 360
tttttgaggt aggaaggatc tacgcgggga acctcttccct gactgtgaac cccgtatgca 420
gaggcagaga cagagagtAT GGCCTCCACA CTCAGTCTTG TCAAGCTTCC CATTCTTTCA 480
AGCATCAAGA CACGCCAATC AACCTCAAAA CATGTTGTTT CACTTCCATC CAAATTCAAT 540
ATTGTCCCTC CCACCCCACT AAAGTTTTCA TTAGATCATC AAATTAATAT CAAACAAACT 600
TCTCTTCTAT CCCTCACAGC AATCACATTT CCATTCTTAT TGGATACCAA ggcaagcaag 660
caagcaagca tcctattcta ttctattctt tcatccatat ctttactctt ttgttttcta 720
accaatccat gatatgaatg ttgttgaaac aggatgcact tgctgttggt ggAGAGTTTG 780
GGATATTTGA AGGAAGAACA TTTGCTCTCA TTCACCCCAT TGTGTTGGGT GGTGTTGTTCT 840
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ATGATATTAA TGAGCTCAAG AAACAACCTCA AACCTGCACC GGTCGCCCCCT GATGGTAAAG 960
CACTTGAAAC TTCACCGCCA TCACCTGTTG AACTTCAAAT CCAGAAACTT ACTGAGGAGA 1020
GGAAAGAGCT TATCAAAGGT TCATACAGGG ATAAACACTT TAATGCTGGA TCCATACTTC 1080
TAGGATTTGG TGTCTTTGAG GCTGTTGGTG TGAGGACTCA ACACATGGTT AAGGACAGGA 1140
AAGCTATTTT CAGGTCCACA TTTATTTGCA GGAGCAGGCA TTACCGTCTT ATGGGCACTG 1200
GCAGCAGCTC TAGTACCACC GATGCAGAAA GGCAGTGAAA cagccagaaa tcttcacatt 1260
gctctgaata cattgaatgt tcttctcttt gtgtggcaga ttcccactgg acttgatatt 1320
gtatggaaaag tgtttgagtt cacaaaatgg ccttgaatgt atgattctca tatgtaagta 1380
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ctattctgca ttttcaaaaa aaaaaaaaaa aaaaaaaaaa aa 1482

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FIG. 9

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1 aaatacaaag gtgaccttat tttgcaaata atccatgcat ggaaatgcat catccttttg  
 61 aaaatgggtt tatctgaatt cttaa gttacgtgaa aattt aatacatttc attttagata  
 ABRE cis-acting element  
 121 aatttattat taaaattcac acttagatgg cctaaaaatt aacacttatt tttacaatt  
 181 caaataaaat atacgacgaa atgagtgtaa tttagtgtgt taagcatcgt caaagcttgg  
 241 agagaaagat catagtttga tctttgaaaa ctatactatt gaaaagggtg aagatatcta  
 301 acctccaaca aaatttattt gatagtcgat tcaaattatc aaaatttgga aaatattttg  
 361 taaattgtta agttgggaaa aatatgttaa ttttcaaatt accatttgca catttttcta  
 421 atctcaaatc acatttaagg gatgttgact actttcgttt tgtacaaatc tttacaattt  
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 541 tgtttttctt ttgttttaac ttataaaata aatatatatt ttattttatt ttaacgtgag  
 601 attgtaagaa ttcattataa gattatgtca ttccctcaaa agaaaattag atgatgtcat  
 661 tttcataact cattttctat aaatacagaa aatcctcaaa aatgaaaaac ctcggtcaaa  
 721 aaataaaaga aaaacatcaa tagtggactg gccacactc attgctttgc tttagtatga  
 781 gaaagtagac ctcaccaacc acgaaccgga cgccgaccgg ttcaaccaaa catcacacca  
 CAAT-BOX  
 841 attttcctaa accataccgg tttttccctc ccttatata ccataccttc cctctttctc  
 TATA-BOX  
 901 taaccaagct tcattcaact cttcaacaca tatcagaaaC AGAAAAAAGA AGCAAAACAT  
 961 TCCAAGAATT TAACAATGGCAACCAACGAAGATCAAAAGCAAACCTGAATCTGGAAGACAT  
 M A T N E D Q K Q T E S G R H  
 1021 CAAGAAGTTGGTCACAAGAGTCTTTTACAAAGTGATGCTCTTTACCAGTATATTCTAGAG  
 Q E V G H K S L L Q S D A L Y Q Y I L E  
 1081 ACCAGTGTCTTCCCAAGAGAACATGAAGCCATGAAAGAGTTGAGAGAGGTACAGCAAAA  
 T S V F P R E H E A M K E L R E V T A K  
 1141 CACCCATGGAACATCATGACAACCTCTGCAGATGAAGGACAATTTTGTGAGCATGCTCCTT  
 H P W N I M T T S A D E G Q F L S M L L  
 1201 AAAGTTATCAATGCTAAGAATACCATGGAATTTGGTGTCTACACTGGCTACTCCCTCCTT  
 K L I N A K N T M E I G V Y T G Y S L L  
 1261 GCCACTGCCCTAGCTATTCTGAAGATGGAAGATTTTGGCTATGGACATTAACAAAGAA  
 A T A L A I P E D G K I L A M D I N K E  
 1321 AATTACGAATTGGGTCTACCTGTAATTAAGGCTGGTGTGATCACAAATTTGATTTT  
 N Y E L G L P V I K K A G V D H K I D F  
 1381 AGAGAAGGTCCAGCTCTTCCAGTTCTTGATGAAATGATCAAAGACGAAAAGAATCATGGT  
 R E G P A L P V L D E M I K D E K N H G  
 1441 AGCTACGATTTTCAATTTTGTGGATGCTGACAAAGACAATTACCTCAACTACCATAAGAGG  
 S Y D F I F V D A D K D N Y L N Y H K R  
 1501 TTAATTGATCTTGTAAAGTGGGAGGTGTGATCGGGTACGACAACACCTTATGGAATGGA  
 L I D L V K V G G V I G Y D N T L W N G  
 1561 TCTGTGGTTGCACCCCTGATGCTCCATTGAGGAAGTATGTTAGGTACTATAGAGATTTT  
 S V V A P P D A P L R K Y V R Y R D F  
 1621 GTTTTGGAGCTTAACAAGGCTTTGGCTGTGGACCCTAGGATTGAAATATGTATGCTTCCT  
 V L E L N K A L A V D P R I E I C M L P  
 1681 GTTGGTGATGGAATCACTATCTGCCGTAGGATCAAGTAA TTGGTTTGCATGTGCACTATA  
 V G D G I T I C R R I K \*  
 1741 TCATGTAATGCACTGCTCCACATTATTGATCATTATTGTGTGGAAGCTACAGAGCATTTA  
 1801 AAAGTCTTCAAGCCTTCTTGTCTTTTGTATTATTTTCTTCAACATATTGTGGTTGTAATT  
 1861 TTCTCTTGTG ATTGATATTG AAAGTTCGAA TAATTGAAAG TTATAT

FIG. 10

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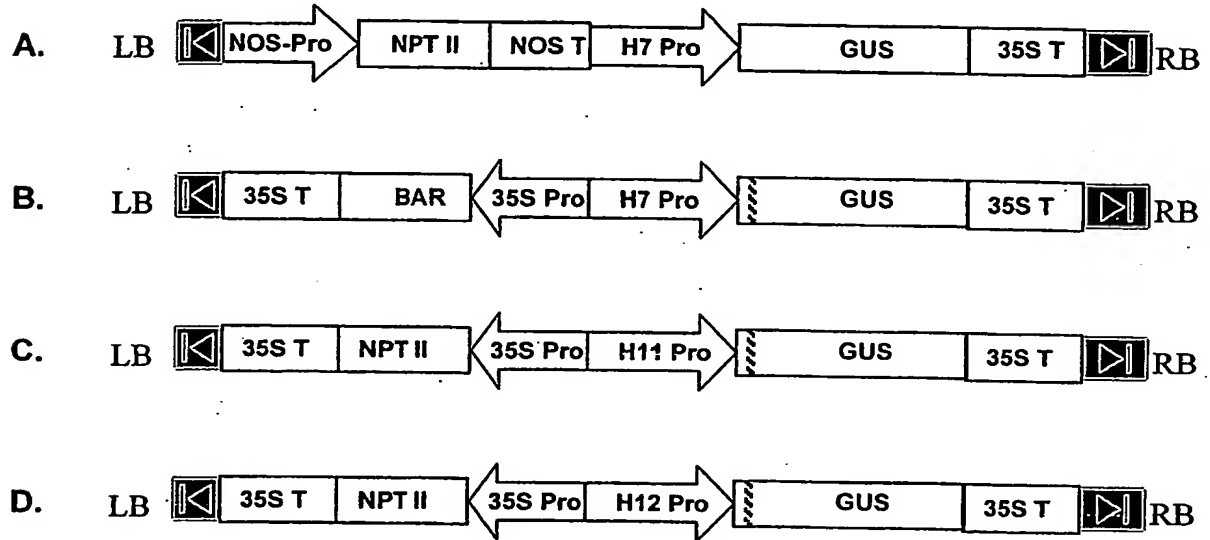


FIG. 11

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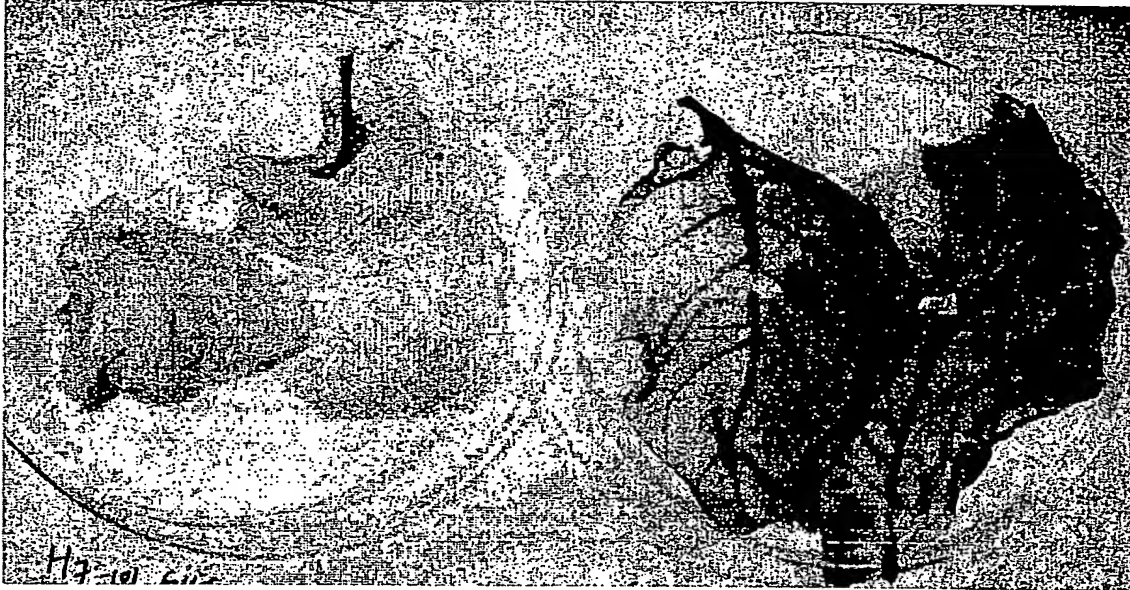


FIG. 12

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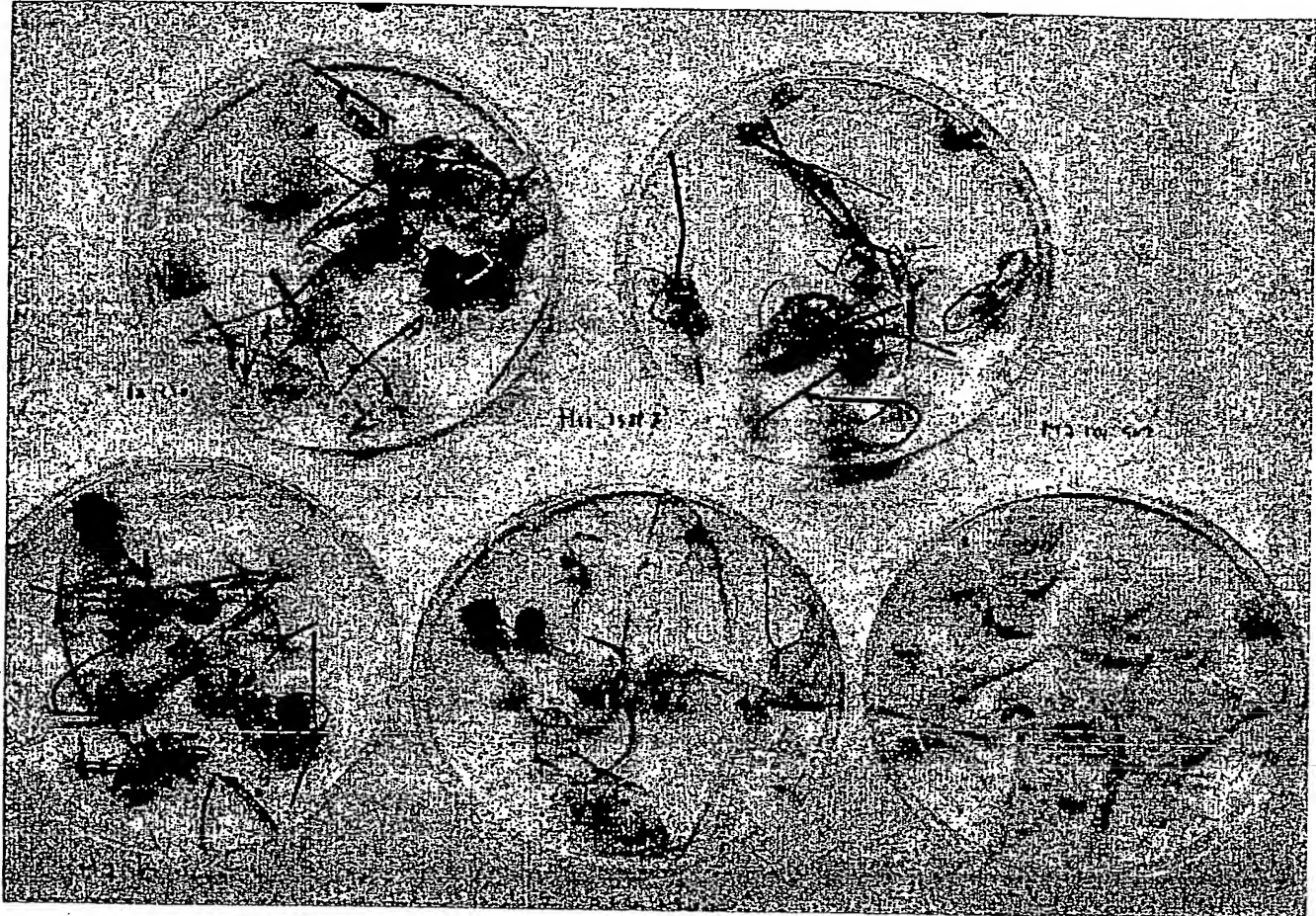


FIG. 13